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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/633,488

08/01/2003

Geoffrey F. Cox

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(172-US-U1)

5142

7590

04/23/2004

The Eclipse Group  
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EXAMINER

MANCHO, RONNIE M

ART UNIT

PAPER NUMBER

3663

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/633,488

**Applicant(s)**

COX ET AL.

**Examiner**

Ronnie Mancho

**Art Unit**

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 10-31 is/are allowed.  
6) ☒ Claim(s) 1,9,32 and 33 is/are rejected.  
7) ☒ Claim(s) 2-8 and 34 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Altitude Aiding Method In a Satellite Positioning system. The above title reflects on the method and apparatus claims in the application filed.

### *Claim Objections*

2. Claim 3 is objected to because of the following informalities: The applicant is advised to end claim 3 with a period, MPEP 608.01 (m). Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 9, 32, 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinowitz et al (6373432) in view of Hanson (US 2003/0125877).

Regarding claim 1, Rabinowitz et al disclose a satellite positioning receiver (3, col. 6, lines 66 to col. 7, lines 1-14) capable of receipt of at least three positioning signals (5a-d, fig. 1) comprising:

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a navigation processor (56, figs. 1, 3, 9, 10; col. 13, lines 23-67) that processes the at least three positioning signals and determines an at least three code phases; and

a location determined from positioning data (col. 32-34) used to calculate a solution (differential corrections, col. 7, lines 8-14) with the at least three code phases.

On the other hand, Rabinowitz did not disclose a location determined from initial digital terrain elevation data, and an altitude equation derived from the initial digital terrain elevation data. However, Hanson (sections 0038-0041) teaches of a satellite positioning receiver comprising a location determined from initial digital terrain elevation data used to calculate a solution (correction signals, sec 0039) with at least three code phases (note that the code phases are related to signals received from GPS satellites) and an altitude equation derived from the initial digital terrain elevation data.

Therefore, it would have been obvious to one of ordinary skill in the art of DGPS to modify the Rabinowitz et al device as taught by Hanson for the purpose improved accuracy of 1-centimeter resolution.

Regarding claim 9, Rabinowitz et al disclose the receiver of claim 1, wherein the navigation processor 56 is a processor located in a server.

Regarding claim 32, Rabinowitz et al disclose a server (3, col. 6, lines 66 to col. 7, lines 1-14; fig. 1) comprising:

a transceiver (56, figs. 1, 3, 9, 10; col. 13, lines 23-67) that receives a plurality of satellite code phases (5a-d, fig. 1);

a memory with positioning data (col. 13, lines 23-67); and

a controller (56, figs. 1, 3, 9, 10; col. 13, lines 23-67) that processes the plurality of satellite code phases (5a-d, fig. 1) and accesses the positioning data in memory to determine a location indicated by the plurality of satellite code phases (5a-d, fig. 1).

On the other hand, Rabinowitz did not disclose digital terrain elevation data. However, Hanson (sections 0038-0041; figs. 1-3) teaches of a server comprising a controller that processes a plurality of code phases (note that the code phases are related to signals received from GPS satellites) and accesses a digital terrain data in a memory with an initial height (i.e. altitude) to determine a location indicated by the plurality of satellite codes and the digital terrain data.

Therefore, it would have been obvious to one of ordinary skill in the art of DGPS to modify the Rabinowitz et al device as taught by Hanson for the purpose improved accuracy of 1-centimeter resolution.

Regarding claim 33, Rabinowitz et al disclose the server of claim 32, wherein a message 8 (col. 8, lines 6-11) containing the location data is sent from the transceiver.

#### ***Allowable Subject Matter***

5. Claims 2-8, 34 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

In claim 2-8, 34, the prior art does not disclose "an error ellipse" as claimed by the applicant.

7. Claims 10-31 are allowed.

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8. The following is an examiner's statement of reasons for allowance:

Regarding independent claims 10, 18, 25, the applicant's particular system and associated method comprising [an error ellipse]... in combination with the other limitations of the claims, was not disclosed by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

The dependent claims, being further limiting to the independent claims, definite and enabled by the Specification are also allowed.

The closest prior art, (Raboniwitz and Hanson) disclose [a navigation device similar to that of the applicant]. Raboniwitz and Hanson do not disclose [an error ellipse]. Thus, the closest prior art fails to anticipate or render applicant's limitations above obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following: 6014101, 6469663, and 6271788 all disclose a navigation system.

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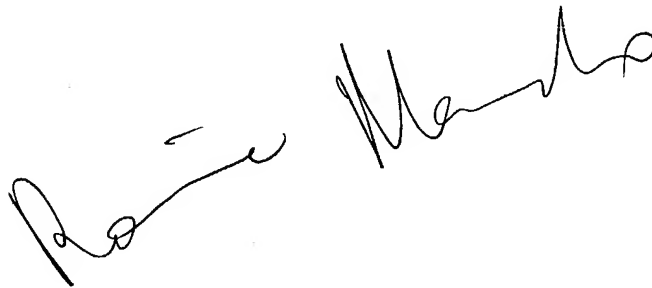
**Communication**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 703-305-6318. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Black can be reached on 703-305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

4-7-2004

A handwritten signature in black ink, appearing to read "Ronnie Mancho", is written over the date. The signature is fluid and cursive, with the first name "Ronnie" written in a larger, more prominent script than the last name "Mancho".